

REMARKS

The Examiner rejected claim 44 under 35 U.S.C. § 112, second paragraph, on the ground that the recitation "the resource manager" lacked sufficient antecedent basis. In response, Applicant amended claim 44 to recite "the resource node" instead of "the resource manager."

The Examiner rejected claims 1, 4, 10-11, 14, 17, 20, 21, 26-29, 31-39, and 41 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,580,424 to Ravishankar *et al.* in view of U.S. Patent Publication No. 2002/0097747 to Kirkby *et al.*, and rejected claims 15, 30, and 40 under 35 U.S.C. § 103(a) as being unpatentable over Ravishankar in view of Kirkby, and further in view of U.S. Patent No. 6,631,122 to Arunachalam *et al.* Additionally, the Examiner rejected claims 42-44 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent Publication No. 2002/0068545 to Oyama *et al.* in view of Kirkby.

Applicant amended independent claim to clarify that the cost (which is at least part of the negotiation information), determined at the resource node, is based, at least in part, on current data flows allocated in at least one wireless cell at the resource node. Support for the amendments is provided, for example, FIGS. 1 and 3, page 1, paragraph 17, page 2, paragraphs 25-27, etc., of the published application (US 2005/0255850). Applicant similarly amended independent claims 17, 20-21, 42 and 44.

Applicant's independent claim 1 recites "a managing node configured to manage traffic flow, wherein said resource node and said managing node are configured so that negotiation information determined by the at least one resource node is passed between the resource node and the managing node, said managing node selecting a parameter for a new traffic flow based on said negotiation information determined at the resource node, wherein said negotiation information comprises cost, the cost determined at the resource node based, at least in part, on current data flows allocated in at least one wireless cell at the resource node."

Thus, cost information, which the managing node uses to select a parameter for a new traffic flow (e.g., traffic class), includes information determined at the resource node based, for example, on current flows ***allocated in a wireless cell*** at the resource node (e.g., the cost determination is based on wireless-based data traffic or flows):

[0025] The resource control apparatus 30 is arranged to control the radio access resources allocated in a cell to an access network connection such as a PDP context or data flow. A flow is for example data traffic relating to an application or to an individual process within an application or to a combination of flows with common quality of service requirements establishing an aggregate flow. The resource control apparatus 30 includes logic which calculates a target bit rate for each traffic class. The resource control apparatus is also arranged to calculate a cost for each traffic handling class. The cost is calculated on the volume of traffic. The cost is calculated for suitable units of traffic volume. A cost is calculated e.g. for packet sizes used at the air interface. The cost is applied to all flows which use the cell and traffic class.

(Emphasis added, US 2005/0255850, page 2, paragraph 25)

In rejecting claim 1, for example, the Examiner admitted that "Ravishankar '424 discloses all the claimed limitations as set forth above with the exception of claimed features: **Regarding claim 1**, said managing node selecting a parameter for a new traffic flow based on said negotiation information determined at the resource node, wherein said negotiation information comprises cost, the cost determined at the resource node based, at least in part, on current data flows at the resource node" (emphasis in the original, Office Action, page 4).

It follows, therefore, that Ravishankar also does not disclose at least the features of "the cost determined at the resource node based, at least in part, on current data flows allocated in at least one wireless cell at the resource node," as recited in amended independent claim 1.

The Examiner, however, relied on Kirkby as allegedly disclosing the feature pertaining to determination of the cost, and stated:

However, Kirby '747 from the same field of endeavor discloses the above claimed features:

Regarding claim 1, said managing node (fig. 5, service manager 61 for implementing QoS for end users requests, paragraph 0068, lines 1-5), selecting a parameter (see, plurality of traffic classes that are capable of being selected, paragraph 0057, lines 1-8, paragraph 0058, lines 1-4) for a new traffic flow (see, new inelastic traffic stream classes, paragraph 0069, lines 8-11) based on said negotiation information (see, negotiating between the layers, paragraph 0014, lines 4-9) determined at the resource node (see, software manager for managing and controlling communications, paragraph 0009, see, resource manager, paragraph 0068, lines 7-13), wherein said negotiation information comprises cost (see, path price information and traffic value based negotiation of resources usage, paragraph 0094, lines 4-10), the cost determined at the resource node based, at least in part, on current data flows (see, new inelastic traffic stream classes, paragraph 0069, lines 8-11) at the resource node (see, the combination of software manager for managing and controlling communications, paragraph 0009, see, resource manager, paragraph 0068, lines 7-13).

(Emphasis in the original, Office Action, pages 4-5)

Kirkby is directed to a method and apparatus for managing and controlling a communications network and to a network incorporating such apparatus (Kirkby, page 1, paragraph 2). Kirkby describes, for example, allocating resources in a network having multiple resource-allocation layers in which a first layer requires resources, provided by a second layer, by providing an indication to the second layer of required resources, having the second layer automatically offer the required resources together with a condition for use of those resources (e.g., a price which depends on current demand), determining (by the first layer) if the condition is acceptable, and if so accepting the offered resources (Kirkby, Abstract and page 1, paragraphs 10-13). Kirkby also explains, in relation to Kirkby's FIG. 5, that a service manager handles requests for service from end users and other layers, and that a resource utilization

policy manager 53 determines how resource utilization indicators are set in any particular situation and traffic demand pattern:

[0068] In FIG. 5, the service manager 61 handles requests for service from end users or other layers, agrees bandwidth and QoS, and implements and assures service level agreements by controlling ingress traffic and monitoring the service. The topology manager 52 is responsible for all aspects of routing, discovery of resources, passing on requests to other layers etc. The resource utilisation policy manager is responsible for the policies that determine how resource utilisation indicators are set in any particular situation and traffic demand pattern. The resource utilisation indicator is then used by the service manager 53 for controlling admission, and by the topology manager for determining routing. The network of FIG. 5 also incorporates an interlayer manager generally depicted in 56. This interlayer manager co-ordinates resource usage policy between the layers and advantageously provides topology maps and summary resource utilisation information for any of the layers.

[0069] The resource utilisation indicators (RUIs) convey a measure of n-price. This is an internal network control metric that is similar to 'congestion price' or 'shadow price'. This form of RUI increases numerically as the resource utilisation increases. The advantage of using such n-price RUIs, rather than for instance simply a measure of spare available bandwidth on a particular path is that this variable can be used for control differentiated priority elastic traffic and prioritised inelastic traffic classes in a common manner. Thus, using this method, optimised automated admission control decisions can, for example, be made about admitting a new inelastic traffic stream, even when the path appears full of elastic traffic. If the inelastic traffic stream has a sufficiently high priority (as defined by an ingress control 'utility function' under control of the service manager), then it will be admitted and the elastic traffic will be squeezed to compensate as a direct result of the n-price increasing.

(Kirkby, pages 4-5, paragraphs 68-69)

Thus, while Kirkby's system can determine a price for resources to be allocated for a particular layer that may depend on current data traffic conditions, Kirkby, however, does not describe that the price depends on data traffic allocated in a wireless cell. Indeed, Kirkby does not at all discuss or mention wireless data traffic, and

therefore does not disclose price determination based on resources allocated in a wireless cell. Accordingly, Kirkby too fails to disclose or suggest at least the features of "the cost determined at the resource node based, at least in part, on current data flows allocated in at least one wireless cell at the resource node," as recited in amended independent claim 1.

Additionally, in rejecting claim 42, which recites features similar to the features recited in claim 1, the Examiner admitted that "Oyama '545 discloses all the claimed limitations with the exception of claimed features: **Regarding claim 42**, wherein the negotiation information comprises cost information which is determined at the resource node; the cost determined at the resource node based, at least in part, on current data flows at the resource node; and selecting at least two parameter parameters for a new traffic flow based on said negotiation information determined at the resource node" (Emphasis in the original, Office Action, page 14). It follows, therefore, that Oyama also does not disclose "the cost determined at the resource node based, at least in part, on current data flows allocated in at least one wireless cell at the resource node," as recited in amended independent claim 1 (or as similarly recited in amended claim 42).

Here too, the Examiner relied on Kirkby as allegedly disclosing the features pertaining to the cost determination. As noted above, Applicant contends that Kirkby fails to disclose at least the features of "the cost determined at the resource node based, at least in part, on current data flows allocated in at least one wireless cell at the resource node," as recited in amended independent claim 1.

Arunachalam, which the Examiner relied upon in rejecting several of the dependent claims, fails to cure the deficiencies of Ravishankar, Kirkby, and/or Oyama, as they relate to the features pertaining to cost information being determined based on data flows allocated in at least one wireless cell.

Because none of the cited references discloses or suggests, alone or in combination, at least the features of "the cost determined at the resource node based, at least in part, on current data flows allocated in at least one wireless cell at the

resource node," Applicant's independent claim 1, and the claims depending from it, are patentable over the cited art.

Applicant's independent claims 17, 20-21, 42 and 44 recite "determining negotiation information at a resource node configured to provide access to a wireless connection coupled to a user equipment, the negotiation information comprising cost, the cost computed at the resource node based, at least in part, on current data flows allocated in at least one wireless cell at the resource node," or similar language. For reasons similar to those provided with respect to independent claim 1, Applicant's independent claims 17, 20-21, 42 and 44, and the respective claims depending from them, are patentable over the cited art.

CONCLUSION

On the basis of the foregoing amendments, the pending claims are in condition for allowance. It is believed that all of the pending claims have been addressed in this paper. However, failure to address a specific rejection, issue or comment, does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above are not intended to be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper.

The Commissioner is hereby authorized to charge the fee and any additional fees that may be due, or credit any overpayment of same, to Deposit Account 50-0311, Reference No. Attorney Docket No. 39700-577N01US/NC16859US. If there are any questions regarding reply, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Respectfully submitted,

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/Ido Rabinovitch/

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